

CLAIMS

What is claimed is:

- 5 1. An apparatus for dissipating waves in the ocean, comprising:
 - (a) a base anchored to the ocean floor;
 - (b) a tower extending up from the base;
 - (c) a panel having a front edge and a rear edge that is opposite from
10 the front edge, said panel being pivotally attached to the top of the
tower, so as to be capable of rocking back and forth; and
 - (d) a buoyant element disposed at the rear edge of the panel,
wherein the apparatus is configured such that the rear edge of the panel
remains above the surface of the ocean and the front edge remains in the ocean
when the panel is in its normal state.
- 15 2. An apparatus according to claim 1, wherein the panel is comprised
of a plurality of slats running parallel to the front edge and the rear edge.
3. An apparatus according to claim 2, wherein the slats are
20 configured so as to direct water passing through them underneath the panel and
toward the front edge.
4. An apparatus according to claim 1, further comprising an electrical
generator and a transmission system for transmitting rocking energy of the panel
25 to the electrical generator.
5. An apparatus according to claim 4, wherein the transmission
system includes a flywheel for driving the generator.
- 30 6. An apparatus according to claim 1, wherein the base has variable
buoyancy that can be altered by pumping air into the base or venting air out of
the base.

7. An apparatus according to claim 6, wherein the base includes a plurality of cells having open bottoms into which the air may be pumped and from which the air may be vented.

5 8. An apparatus according to claim 1, wherein the tower has an adjustable height.

9. An apparatus according to claim 1, wherein the panel is oriented at an angle of approximately 15-45 degrees from vertical in the normal state.

10

10. An apparatus according to claim 1, wherein the front edge of the panel is weighted so as to maintain the panel in the normal state.

11. An apparatus according to claim 1, further comprising a variable-
15 buoyancy element disposed at the front edge of the panel.

12. An apparatus according to claim 11, wherein the variable-buoyancy element comprises a hollow chamber with an open bottom.

20 13. An apparatus according to claim 1, wherein the buoyant element comprises a hollow chamber.

14. An apparatus according to claim 13, wherein the hollow chamber
has an open bottom.

25

15. An apparatus for dissipating waves in the ocean, comprising:

(a) a base anchored to the ocean floor;

(b) a tower extending up from the base; and

(c) a panel having a front edge and a rear edge that is opposite from
the front edge,

30

wherein the panel is pivotally attached to the top of the tower, so as to be capable of rocking back and forth,

wherein the panel is configured such that the rear edge remains above the surface of the ocean and the front edge remains in the ocean when the panel is in its normal state, and

wherein the panel is comprised of a plurality of slats running parallel to the
5 front edge and the rear edge.

16. An apparatus according to claim 15, wherein the slats are configured so as to direct water passing through them underneath the panel and toward the front edge.

10

17. An apparatus according to claim 15, further comprising an electrical generator and a transmission system for transmitting rocking energy of the panel to the electrical generator.

15

18. An apparatus according to claim 17, wherein the transmission system includes a flywheel for driving the generator.

19. An apparatus according to claim 15, wherein the base has variable buoyancy that can be altered by pumping air into the base or venting air out of
20 the base.

20. An apparatus according to claim 19, wherein the base includes a plurality of cells having open bottoms into which the air may be pumped and from which the air may be vented.

25

21. An apparatus according to claim 15, wherein the tower has an adjustable height.

22. An apparatus according to claim 15, wherein the panel is oriented
30 at an angle of approximately 15-45 degrees from vertical in the normal state.

23. An apparatus according to claim 15, wherein the front edge of the panel is weighted so as to maintain the panel in the normal state.

24. An apparatus according to claim 15, further comprising a variable-buoyancy element disposed at the front edge of the panel.

25. An apparatus according to claim 24, wherein the variable-buoyancy
5 element comprises a hollow chamber with an open bottom.

26. An apparatus for dissipating waves in the ocean, comprising:

- (a) a base anchored to the ocean floor;
- (b) a panel having a front edge and a rear edge that is opposite from
10 the front edge, wherein the front edge of the panel is attached to the base; and
- (c) a buoyant element disposed near the rear edge of the panel, wherein the panel is configured such that the buoyant element maintains the rear edge of the panel above the surface of the ocean while the front edge
15 remains in the ocean when the panel is in its normal state.

27. An apparatus according to claim 26, wherein the front edge of the panel is tethered to the base.

20 28. An apparatus according to claim 26, wherein the rear edge of the panel also includes a second buoyant element that is configured as a hollow chamber with an open bottom.

29. An apparatus according to claim 28, further comprising an air line
25 for transmitting air from the hollow chamber to the base.

30. An apparatus according to claim 29, wherein the base includes a generator and a flywheel for driving the generator.

30 31. An apparatus according to claim 26, wherein the buoyant element is provided with an electrically operable valve for flooding the buoyant element and thereby causing it to submerge.

32. An apparatus according to claim 26, further comprising a variable-buoyancy element disposed at the front edge of the panel, wherein the variable-buoyancy element is provided with an electrically operable valve for flooding the variable-buoyancy element.

5

33. An apparatus according to claim 32, wherein the variable-buoyancy element comprises a hollow chamber with an open bottom.

34. An apparatus according to claim 26, wherein the panel is
10 comprised of a plurality of slats running parallel to the front edge and the rear edge.

35. An apparatus according to claim 34, wherein the slats are
configured so as to direct water passing through them underneath the panel and
15 toward the front edge.

36. An apparatus according to claim 26, wherein the base has variable
buoyancy that can be altered by pumping air into the base or venting air out of
the base.

20

37. An apparatus according to claim 36, wherein the base includes a
plurality of cells having open bottoms into which the air may be pumped and
from which the air may be vented

25 38. An apparatus according to claim 26, wherein the panel is oriented
at an angle of approximately 15-45 degrees from vertical in its normal state.

39. An apparatus according to claim 38, wherein the front edge of the
panel is weighted so as to maintain the panel in the normal state.

30